

REMARKS

Claims 1- 8, 12-26 & 29-40 are in the present application. Claims 1, 2, 19 & 21 have been amended, as indicated above, for clarity and no new matter has been added. Also new claims 40 and 41 have been added, that expressly recite new use claims similar to claims 15 & 32 herein, but with greater emphasis on their new-use nature.

The Office Action objection of claims 2-8, 21-26 & 29-31 is respectfully traversed. That is, claims 1, 2, 19 & 21 have been amended to give further recitation to the imaging lens and no new matter has been added.

The Office Action objection to claims 15, 18, 20, 32 & 37-39 is respectfully traversed. There is no requirement for a structural connection to a microscope in these claims, as they are not apparatus claims but method-of-use claims, as is new claim 40 and meet the Examiner's concerns as giving an intended use for the image corrector of the invention and again, examination on the merits of these method of use claims (which are unfettered by structural requirements) is requested.

The Office Action rejection of claims 1, 2-8, 12-14, 15-17, 18, 19, 20, 21-26, 29-31, 32-35, 37, 38 & 39 as obvious and 35 USC 103 (a) over the Leith patent ('655), in view of the Kallet patent ('147) is respectfully traversed. Leith does not expressly teach correcting an objective and neither patent suggests holographically correcting a microscope.

In addition, there is a further flaw with respect to the Leith apparatus, as illustrated in Figures 27 & 28 of Leith which are discussed at length by the above Office Action. That is, Figure 27 indicates that a coherent light source is employed to write a hologram onto photographic plate 213, which becomes hologram plate 213' in Figure 28. However, when an article 219 is placed in the object plane 203', it is illuminated by non-coherent light, all as shown in Figure 28, which would result in a blurred image if Figure 28 could be adapted to define a microscope structure. That is, applicant's claim 1 recites an image corrector that, in paragraph f), provides means to illuminate an article with a coherent or laser beam to provide a focused microscope image and not Leith's non-coherent illumination, which would also result in a blurred image in applicant's claimed structure.

This means that the Leith patent does not suggest the correct structure for a microscope, per applicant's claims 1 et seq; nor does combining Leith with the Kallet patent correct the Leith illumination defect and this rejection is believed met, as applied to applicant's claims 1 et seq, listed above.

In addition, while Leith teaches a lens or a system, he doesn't teach what lenses, i.e., doesn't teach use of an objective lens nor the combination of an objective lens & an imaging lens in a microscope. These two lenses are not suggested by Leith without resort to applicant's own disclosure, which is hindsight reconstruction that does not establish obviousness.

For the Office Action to say that lenses 247 & 249 "could be" an objective & an imaging lens is speculation based on applicant's disclosure and is far from an "explicit" demonstration of such lenses from the Leith patent.

Also note that applicant's claims, claims 1-14, 19, 21-26, 29-31 & 38 recite an image corrector" that comprises a microscope that has certain elements. As "microscope" is outside the preamble, it is a valid claim limitation that must be addressed on the merits. That is, the structure defined in claim 1, is limited to a microscope, which is further limited by features a)-f), which structure is not suggested by the Leith & Kallet patents and this rejection is believed met.

The Office Action makes much of certain claims, stating that a recitation as to how the claimed apparatus is intended to be used does not differentiate the claimed apparatus.... Agreed. That is, why applicant provides method of use claims which are not subject to structural limitations and these are claims, 15-18, 20, 32-37, 39, 40 & 41. Again, an action on the merits is requested on these novel, method of use claims, not suggested by the applied references. These include method claims 32-37, 39 & 41, which recite a new use of an array of pinholes, which lends further novelty to these claims. e Office Action rejection of applicant's claims 21-26, 29-31 & 32-35, 37, 38 & 39, as obvious under 35 USC 103 a) in view of the above patents to Leith' 655) and to Kallet '147 and further in view of Klotz, '555, is respectfully traversed. Again the Office Action states that if Leith is not restricted to a particular optical system that is intended to be corrected, this suggests to one skilled in the art, that one may include an objective and imaging lens in a microscope. That is, if the patent doesn't negate an application or use,

it is covered by such patent.

This non-negate rule, proposed by the Examiner, flies in the face of the Examiner's own MPEP at section 2143, including test 3 for obviousness, which is that the prior art reference must teach or suggests all of the claim limitations, not merely fail to negate such limitations as the Examiner would have it. Accordingly, applicant requests a citation from the Examiner on this radical departure from the accepted rule.

As noted on page 9 of the Office Action, the Leith reference does not teach the use of a pinhole array in the object light path, while the newly cited Klotz reference, '555, does teach the use of a pinhole array to produce multiple-point holograms but does not suggest the use thereof in a microscopes, per applicant's claims 21 et seq. nor to provide a large field of view in a microscope that has holographically corrected lenses, as described above.

Note that applicant's claims have been amended to limit the scope of each to lens correction in a microscope and claims 21 et seq. are further enhanced by reciting an array of pinholes in such corrected microscope.

Thus, it is believed that all of applicant's claims that recite "an array of pinholes" should be seen as allowable, including claim 32, from which claim 36 depends. That is, it is noted that claim 36 is objected to as dependent upon a rejected base claim, but would be allowable if.... Hopefully, claim 36 is now dependent upon a novel base claim, as amended and need not be written in independent form. Further such array of pinholes makes possible the method of claim 36, which provides an image with a contour plot thereof.

As discussed above, none of the cited references describes holographically correcting a microscope *or how to obtain a corrected or focused image back through the hologram*. Thus, none of the cited references teach or suggest all the limitations of applicant's above claims so as to establish obviousness per *In re Vaeck*, 20 USPQ 2nd 1438 (1991).

Again it is noted that the primary reference in the above rejection, Leith, has a glaring omission in his Figure 28 in that he illuminates an object to be viewed with non coherent light through hologram 213', which means, in a microscope, a blurred image results. This defect undermines the above rejection and shows that applicant's above

listed claims (*both apparatus and method*) are clearly distinguished over the combined patents of Leith, Kallet & Klotz.

In answer to the "Response to Arguments" in the above Office Action where the Examiner argues

a) that certain claims are really the intended application (*use*) of the image correction technique, it is requested that the Examiner address the merits of the method claims listed above, which are of course, method of use claims, entitled to be examined.

b) the Examiner also states that the applicant apparatus claims fail to provide any structure that suggests a non obvious variation from the prior art. The Examiner's attention is again directed to the significant structural (and method) limitation of applicant's claim 1 f), where an article to be viewed is illuminated by a coherent beam for a focused microscopic image in contrast to Leith's Figure 28, which discloses illuminating such article with non coherent or white light, which would result in a blurred image in a microscope. These are clear structural and method differences of applicant's apparatus & method claims over the prior art.

Thus applicant's claims, as amended, recite novel, useful and specific applications over the generalized prior art.

In view of the foregoing, the claims of record, as amended, are believed distinguished over the applied art and in condition for allowance.

In accordance with Section 714.01 of the M.P.E.P., the following information is presented in the event that a call may be deemed desirable by the Examiner to: Thomas C. Stover, (781) 377-3779.

Respectfully submitted,



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